

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing **See form PCT/ISA/210**
(day/month/year)

Applicant's or agent's file reference

P2236 PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/CH2004/000671

International filing date (day/month/year)

05.11.2004

Priority date (day/month/year)

06.11.2003

International Patent Classification (IPC) or both national classification and IPC

B23D77/00

Applicant

URMA AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

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Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II

Priority

1. ☐ The following document has not yet been furnished:

☐ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

1.1 The subject matter of claims 9-14, 18, 19, 21-27, 30-33 cannot be deduced from the priority application. Consequently the priority claim is not valid with respect to these claims. With respect to these claims, documents which are cited as P in the search report are to be regarded as part of the prior art.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-27, 32-33</u>	YES
	Claims	<u>28-31</u>	NO
Inventive step (IS)	Claims	<u>5-8, 10-14, 23-27</u>	YES
	Claims	<u>1-4, 9, 15-22, 28-33</u>	NO
Industrial applicability (IA)	Claims	<u>1-33</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations:

1.1 Reference is made to the following documents:

D1: US-A-2 164 573 (CHRISTMAN JOHN M) 4 July 1939
D2: US-A-2 164 541 (CHRISTMAN JOHN M) 4 July 1939
D3: US-A-2 164 572 (CHRISTMAN JOHN M) 4 July 1939
D4: CH 433 916 A (MERZ AG) 15 April 1967
D5: US-A-5 873 687 (WATANABE ET AL) 23 February 1999
D6: DE 20 2004 009549 U1 (HERMANN BILZ GMBH & CO. KG) 12
August 2004
D7: PATENT ABSTRACTS OF JAPAN vol. 018, no. 186 (M-1585),
30 March 1994 & JP 05 345221 A (HITACHI TOOL ENG
LTD), 27 December 1993
D8: US 2002/102141 A1 (MEECE ROY DEAN ET AL) 1 August
2002
D9: DE 196 00 239 C1 (IMA MASCHINENFABRIKEN) 10 April
1997

2.1 The present application does not meet the requirements of
PCT Article 33(1) because the subject matter of
independent claim 28 and of claims 29 to 31 dependent on
it is not novel within the meaning of PCT Article 33(2).

2.2 Document D4 discloses (the references between parentheses

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refer to this document):

A shank (1) for a machine reaming tool, comprising an essentially rotationally symmetrical shank (2, 3) with an end flat face (7), the shank (2, 3) having a connecting extension (6) which projects from this flat face (7) and is intended for fitting an attachable interchangeable head (10).

The subject matter of claim 28 is therefore not novel (PCT Article 33(2)).

- 2.3 Furthermore, D4 discloses that the connecting extension is an external taper (cf. column 2, lines 14-16), according to claim 29, and that the shank has means (8) for fastening a further tool.

The subject matter of claims 29 and 30 is therefore also not novel (PCT Article 33(2)).

- 2.4 Document D5 discloses (the references between parentheses refer to this document):

A shank (10) for a machine reaming tool, comprising an essentially rotationally symmetrical shank (14b) with an end flat face (15a), the shank (14b) having a connecting extension (14a) which projects from this flat face (15a) and is intended for fitting an attachable interchangeable head.

The subject matter of claim 28 is therefore likewise known from document D5 (PCT Article 33(2)).

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2.5 The subject matter of claims 30 and 31 can also be recognized from document D5 (cf. column 4, first line to line 52, and figure 1) and is therefore not novel (PCT Article 33(2)).

3.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of independent claims 1 and 15 does not involve an inventive step within the meaning of PCT Article 33(3).

3.2 Document D1 is considered to be the closest prior art with respect to the subject matter of claims 1 and 15. It discloses (the references between parentheses refer to this document):

A machine reaming tool (figure 1), comprising a shank (23) and a one-piece interchangeable head (20), the thickness of the interchangeable head (20) in the axial direction corresponding to one sixth of the diameter at each point, that is to say including means for interchangeable adaptation.

3.3 An interchangeable head according to D1 which has a diameter (D) which is smaller than 72 mm obviously has a thickness (h in mm) which is less than $6 + (1/10) \cdot (D - 12)$ according to claims 1 and/or 15. Since the reaming of bores having a diameter of less than 72 mm is normal practice in the prior art, the subject matter of claims 1 and 15 does not involve an inventive step.

3.4 For similar reasons stated in paragraphs 3.2 and 3.3, the

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subject matter of claims 1 and 15 likewise does not involve an inventive step with respect to documents D2 and D3 (cf. the passages cited in the search report). With regard to document D2, reamers which have a negative rake angle are known from the prior art (cf. the passages of documents D7 and D8 cited in the search report).

- 4.1 The application does not meet the requirements of PCT Article 6 because independent claim 32 is not clear.
- 4.2 Claim 32 relates to a method for the use of an interchangeable head according to either of claims 13 and 14. It appears that this claim should relate to a method for the use of an interchangeable head according to one of claims 15 to 27.
- 4.3 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of independent claim 32, insofar as it can be interpreted, does not involve an inventive step within the meaning of PCT Article 33(3).
- 4.4 Document D3 is considered to be the closest prior art with respect to the subject matter of claim 32. It discloses (the references between parentheses refer to this document):

A method for the use of an interchangeable head (10) according to one of claims 15-27, comprising the following steps:

- reaming the bore to the desired size by means of the first leading part (see page 2, left-hand column, lines

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20 and 21) and in particular a reaming corner on the front side of the cutting edges (37).

4.5 The subject matter of claim 32 therefore differs from the known method for the use of an interchangeable head by milling a chamfer at the outlet of the bore by means of a second leading part on a rear side of the cutting edges of the reamer.

4.6 The milling of chamfers by reamers is already known from the prior art, cf. in this respect document D6 (according to paragraph 1 with respect to Box 2, this document is to be regarded as part of the prior art), in particular paragraph [0018] and figure 3. If a person skilled in the art wished to achieve the same aim in an interchangeable head as per document D3, he could easily apply these features to like effect to the subject matter of D6. In this way he would arrive at a method for the use of an interchangeable head as per claim 32 without thereby being inventive.

5.1 Dependent claims 2 to 4, 9, 16 to 22 and 33 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for inventive step, see documents D1, D2, D3, D4 and D9 and the corresponding passages cited in the search report.

5.2 The combination of features contained in dependent claim 5 is neither known from nor suggested by the available prior art.

The subject matter of this claim could be used as a basis

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for a new, allowable claim.

5.3 The applicant is advised that the requirements for
unity of invention which are specified in PCT Rule
13 must be met during the following substantive
examination procedure.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 43bis.1 and 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
DE202004009549U	12.08.2004	11.06.2004	11.06.2004

2. Non-written disclosures (Rule 43bis.1 and 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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See form 210